

## SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research  
Organisation  
Grains Research and Development Corporation

<120> Antifungal peptides

<130> 501692

<150> AU 2004900938

<151> 2004-02-24

<160> 62

<170> PatentIn version 3.3

<210> 1

<211> 64

<212> PRT

<213> Galleria mellonella

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Met Lys Phe Thr Gly Ile Phe Phe Ile Ile Met Ala Ile Ile Ala Leu  
1 5 10 15

Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile  
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala  
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His  
50 55 60

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<211> 64

<212> PRT

<213> Galleria mellonella

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Met Asn Phe Thr Gly Ile Phe Phe Met Ile Met Ala Ile Ile Ala Leu  
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Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile  
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala  
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His  
50 55 60

<210> 3  
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 <213> Galleria mellonella

<400> 3

Met Arg Leu Ser Ile Ile Leu Val Val Val Met Met Val Met Ala Met  
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Phe Val Ser Ser Gly Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala  
 20 25 30

Ile Lys Lys Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn  
 35 40 45

Ile Ala Ser Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys  
 50 55 60

Lys Lys Asn His  
 65

<210> 4  
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 <213> Galleria mellonella

<400> 4

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys  
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Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu  
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His Ile Lys Asn Arg Arg His  
 35

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 <213> Galleria mellonella

<400> 5

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser  
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Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys Lys Lys Asn  
 20 25 30

His

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 <213> *Galleria mellonella*

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 cctaaagtca atgttaatgc cattaagaag ggaggaaagg ccataggaaa aggattttaaa 180  
 gtaatcagtg cggcgagtag agcgcatgac gtctatgaac acattaaaaa cagaaggcac 240  
 taataaaaacc aaaaataatt atttatttta taaggtaatt ttaagacata taatgtatgt 300  
 tgcaaattat taagtgaat aaaatataaa atatttttttg tt 342

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 agcggcgcct aaagtcaatg ttaatgccat taagaaggga ggaaaggcca taggaaaagg 180  
 atttaaagta atcagtgcgg cgagtacagc gcatgacgtc tatgaacaca ttaaaaacag 240  
 aaggcactaa tagaaccaaa aataatcatt tattttataa ggtaatttta agacatataa 300  
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 gagatgcggc gcctggaaaa attcctgtga aagcgattaa aaaaggaggg caaattattg 180  
 gtaaagctct gcgtggaatc aatatagcga gtactgcaca tgacataatt agccagttca 240  
 aaccgaaaaa gaagaaaaac cattgagtat ttaataaaaa atcgttcaat aatatattta 300  
 ataataataa taaattttac ttatattact ataataaat taatattttt aattgtgcca 360

tttttagtttt ataaattata ttaagtatta attttataat taataaaaaa gcttaaatat 420

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 <213> Galleria mellonella

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 aatgaagcgg cgcctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120  
 aaaggattta aagtaatcag tgcggcgagt acagcgcatg acgtctatga acacattaaa 180  
 aacagaaggc ac 192

<210> 10  
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 <212> DNA  
 <213> Galleria mellonella

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 aatgaagcgg cgcctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120  
 aaaggattta aagtaatcag tgcggcgagt acagcgcatg acgtctatga acacattaaa 180  
 aacagaaggc ac 192

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 <212> DNA  
 <213> Galleria mellonella

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 ggagatgagg cgcctggaaa aattcctgtg aaagcgatta aaaaaggagg gcaaattatt 120  
 ggtaaagctc tgcgtggaat caatatagcg agtactgcac atgacataat tagccagtto 180  
 aaaccgaaaa agaagaaaaa ccat 204

<210> 12  
 <211> 117  
 <212> DNA  
 <213> Galleria mellonella

<400> 12  
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 atcagtgcgg cgagtacagc gcatgacgtc tatgaacaca ttaaaaacag aaggcac 117

5/22

<210> 13  
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 <212> DNA  
 <213> *Galleria mellonella*

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 ataattagcc agttcaaacc gaaaaagaag aaaaaccat 99

<210> 14  
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 <212> PRT  
 <213> *Spodoptera litura*

<400> 14  
 Met Lys Leu Thr Lys Val Phe Val Ile Leu Ile Val Val Val Ala Leu  
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 Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile  
 20 25 30  
 Lys Lys Ala Gly Ala Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile  
 35 40 45  
 Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys  
 50 55 60  
 Lys Lys His  
 65

<210> 15  
 <211> 67  
 <212> PRT  
 <213> *Manduca sexta*

<400> 15  
 Met Lys Leu Thr Ser Leu Phe Ile Phe Val Ile Val Ala Leu Ser Leu  
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 Leu Phe Ser Ser Thr Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala  
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 Ile Lys Gln Ala Gly Lys Val Ile Gly Lys Gly Leu Arg Ala Ile Asn  
 35 40 45  
 Ile Ala Gly Thr Thr His Asp Val Val Ser Phe Phe Arg Pro Lys Lys  
 50 55 60

Lys Lys His  
65

<210> 16  
<211> 66  
<212> PRT  
<213> Bombyx mori

<400> 16

Met Asn Ile Leu Lys Phe Phe Phe Val Phe Ile Val Ala Met Ser Leu  
1 5 10 15

Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro Ile Lys Ala Ile  
20 25 30

Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg Ala Ile Asn Ile  
35 40 45

Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys Pro Lys Lys Arg  
50 55 60

Lys His  
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<210> 17  
<211> 41  
<212> PRT  
<213> Heliothis virescens

<400> 17

Gly Lys Ile Pro Ile Gly Ala Ile Lys Lys Ala Gly Lys Ala Ile Gly  
1 5 10 15

Lys Gly Leu Arg Ala Val Asn Ile Ala Ser Thr Ala His Asp Val Tyr  
20 25 30

Thr Phe Phe Lys Pro Lys Lys Arg His  
35 40

<210> 18  
<211> 66  
<212> PRT  
<213> Bombyx mori

<400> 18

Met Tyr Phe Leu Lys Tyr Phe Ile Val Val Leu Val Ala Leu Ser Leu  
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Met Ile Cys Ser Gly Gln Ala Asp Pro Lys Ile Pro Val Lys Ser Leu  
20 25 30

Lys Lys Gly Gly Lys Val Ile Ala Lys Gly Phe Lys Val Leu Thr Ala  
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Arg Asn Arg Gly Asn  
50 55 60

Gln Gly  
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<210> 19  
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<212> PRT  
<213> Galleria mellonella

<400> 19

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys  
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu  
20 25 30

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<213> Galleria mellonella

<400> 20

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser  
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Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys  
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23

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<223> N = inosine

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<222> (16)..(16)  
<223> N = inosine

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21

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<223> N = inosine

<220>  
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<223> N = inosine

<400> 23  
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<210> 24  
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<210> 25  
<211> 22  
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<223> Oligonucleotide primer

<400> 25  
gaggaaaggc cataggaaaa gg 22

<210> 26  
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<212> DNA  
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<223> Oligonucleotide primer

<400> 26  
actcgccgca ctgattac 18

<210> 27  
 <211> 18  
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<400> 27  
 ggggggcaga tcattggg 18

<210> 28  
 <211> 19  
 <212> DNA  
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<400> 28  
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<210> 29  
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 <212> DNA  
 <213> Galleria mellonella

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 agtcaatgtt aatgccatta agaagggagg aaaggccata ggaaaaggat ttaaagtaat 180  
 cagtgcggcg agtacagcgc atgacgtcta tgaacacatt aaaaacagaa ggcactaata 240  
 aaacaaaaaa taattattta ttttataagg taattttaag acatataatg tatgttgcaa 300  
 attattaagt gaaataaaat ataaaatatt ttttggtt 337

<210> 30  
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 <212> PRT  
 <213> Galleria mellonella

<400> 30

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys  
 1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser  
 20 25 30

<210> 31  
 <211> 20  
 <212> DNA  
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<220>  
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<223> N = inosine

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<221> misc\_feature  
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<223> N = A, C, G or T

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<400> 34  
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<210> 36  
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<223> Oligonucleotide Sequence  
  
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<210> 38  
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<212> DNA  
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<220>  
<223> Oligonucleotide Primer  
  
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ggatagtact tcataattat atac 24

<210> 39  
<211> 23  
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<220>  
<223> Oligonucleotide Sequence  
  
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gttgcaggac ttaataactta gtg 23

<210> 40  
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<212> DNA  
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<220>  
<223> Oligonucleotide Sequence  
  
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gagtatttta ctaataagta tgtgg 25

<210> 41  
<211> 35  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Oligonucleotide Primer  
  
<400> 41  
ctcgagaaca atgaagttta caggaatatt cttca 35

<210> 42  
<211> 39  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Oligonucleotide Primer  
  
<400> 42  
tctagattag tgccttctgt ttttaatgtg ttcatagac 39

<210> 43  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide Primer

<400> 43  
cgccagagga cccctaaac 19

<210> 44  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide Primer

<400> 44  
atcgatgccga gaaccaagag a 21

<210> 45  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide Primer

<400> 45  
tcgaaggaga tgccaccatg aagtttacag gaatattcctt ca 42

<210> 46  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide Primer

<400> 46  
ttagtgcctt ctgtttttaa tgtgttcata gac 33

<210> 47  
<211> 63  
<212> PRT  
<213> Galleria mellonella

<400> 47

Met Lys Leu Thr Gly Leu Phe Phe Met Ile Met Ala Met Leu Ala Leu  
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile  
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Ile Gly Ala  
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Lys Asn Arg His  
 50 55 60

<210> 48  
 <211> 38  
 <212> PRT  
 <213> Galleria mellonella  
 <400> 48

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys  
 1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser  
 20 25 30

His Val Lys Asn Arg His  
 35

<210> 49  
 <211> 375  
 <212> DNA  
 <213> Galleria mellonella

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 ttctctttat caaccatgaa gctgaccggt ctattttttca tgatcatggc gatgctcgcc 120  
 ctgtttggtg gcgctggtca agccgaccct aagggtgccca ttggcgccat caagaagggt 180  
 ggcaaaatta ttaaaaaagg tcttggtgta attggtgccg ctggtacagc gcatgaagta 240  
 tatagccacg tcaagaacag gcattagatt cttgaagaat atatagtata taattatgaa 300  
 gtactatcct tttgtatatg tgactaagtg cataatgtaa agtcaaataa aatatatatt 360  
 atttatcctc gtgcc 375

<210> 50  
 <211> 192  
 <212> DNA  
 <213> Galleria mellonella

<400> 50  
 atgaagctga ccggtctatt ttcatgatc atggcgatgc tcgccctggt tgttggcgct 60  
 ggtcaagccg accctaagggt gccattggc gccatcaaga aggggtggcaa aattattaaa 120  
 aaaggtcttg gtgtaattgg tgccgctggt acagcgcatg aagtatatag ccacgtcaag 180  
 aacaggcatt ag 192

<210> 51  
 <211> 117  
 <212> DNA  
 <213> Galleria mellonella

<400> 51  
 aaggtgccca ttggcgccat caagaagggt ggcaaaatta ttaaaaaagg tcttggtgta 60  
 attggtgccg ctggtacagc gcatgaagta tatagccacg tcaagaacag gcattag 117

<210> 52  
 <211> 63  
 <212> PRT  
 <213> Galleria mellonella

<400> 52  
 Met Lys Leu Thr Gly Leu Phe Leu Met Ile Met Ala Val Leu Ala Leu  
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 Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile  
 20 25 30  
 Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Leu Gly Ala  
 35 40 45  
 Ala Gly Thr Ala His Glu Val Tyr Asn His Val Arg Asn Arg Gln  
 50 55 60

<210> 53  
 <211> 38  
 <212> PRT  
 <213> Galleria mellonella

<400> 53  
 Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys  
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 Gly Leu Gly Val Leu Gly Ala Ala Gly Thr Ala His Glu Val Tyr Asn  
 20 25 30  
 His Val Arg Asn Arg Gln  
 35

<210> 54  
 <211> 462  
 <212> DNA  
 <213> Galleria mellonella

<400> 54  
 acttcattgt gtacagttgc aggacttaat acttagtgaa ctacttactc ctcggtacca 60

accatgaagc tgaccggtct atttctcatg atcatggcgg tgctcgcgct gtttggtggc 120  
 gctggtcaag ccgaccctaa ggtgccatt ggcgctatca agaagggcgg caaaattatt 180  
 aaaaagggtc taggtgtgct tggcgccgcg ggcacagcgc acgaagtgtg caaccacgtt 240  
 aggaacaggc agtaacgtca tgcgtgattg ttgtacatac agtacttaca atacgatttg 300  
 tcttggtgtg gatatatctt tagataaatt aatttataat accacatact tattagtaaa 360  
 atactcaa atattgatta tagatacatt aataaatatt aattattaca atattttgtt 420  
 tttatgtaca atgcgaatag attctaccct ctgcctcgtg cc 462

<210> 55  
 <211> 192  
 <212> DNA  
 <213> Galleria mellonella

<400> 55  
 atgaagctga ccggtctatt tctcatgac atggcgggtgc tcgcgctgtt tgttggcgct 60  
 ggtcaagccg accctaaggt gccattggc gctatcaaga agggcggcaa aattattaaa 120  
 aaggggtctag gtgtgcttgg cgccgcgggc acagcgcacg aagtgtacaa ccacgttagg 180  
 aacaggcagt aa 192

<210> 56  
 <211> 117  
 <212> DNA  
 <213> Galleria mellonella

<400> 56  
 aaggtgcccc ttggcgctat caagaagggc ggcaaaatta ttaaaaaggg tctaggtgtg 60  
 cttggcgccg cgggcacagc gcacgaagtg tacaaccacg ttaggaacag gcagtaa 117

<210> 57  
 <211> 67  
 <212> PRT  
 <213> Spodoptera exigua

<400> 57

Met Lys Leu Thr Lys Val Phe Val Ile Val Ile Val Val Val Ala Leu  
 1 5 10 15

Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile  
 20 25 30

Lys Lys Ala Gly Thr Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile  
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys  
 50 55 60

Lys Lys His  
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<210> 58  
 <211> 54  
 <212> PRT  
 <213> Hyblaea puera

<400> 58

Ala Met Ser Leu Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro  
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Ile Lys Ala Ile Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg  
 20 25 30

Ala Ile Asn Ile Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys  
 35 40 45

Pro Lys Lys Arg Lys His  
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<210> 59  
 <211> 41  
 <212> PRT  
 <213> Caligo illioneus

<400> 59

Gly Lys Ile Pro Ile Asn Ala Ile Arg Lys Gly Ala Lys Ala Val Gly  
 1 5 10 15

His Gly Leu Arg Ala Leu Asn Ile Ala Ser Thr Ala His Asp Ile Ala  
 20 25 30

Ser Ala Phe His Arg Lys Arg Lys His  
 35 40

<210> 60  
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 <212> PRT  
 <213> Caligo illioneus

<400> 60

Arg Lys Ile Pro Val Glu Ala Ile Lys Lys Gly Ala Ser Arg Ala Trp  
 1 5 10 15

Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala Ser Ile Phe  
20 25 30

Asn Arg Lys Arg Glu.  
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<210> 61  
<211> 40  
<212> PRT  
<213> Caligo illioneus

<400> 61

Gly Lys Ile Pro Val Glu Ala Leu Lys Lys Gly Ala Lys Val Ala Gly  
1 5 10 15

Arg Ala Trp Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala  
20 25 30

His Leu Phe Asp Arg Lys Arg Asn  
35 40

<210> 62  
<211> 43  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus sequence for Galleria peptides

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<222> (1)..(1)  
<223> Xaa = GLY, PRO, ALA or ABSENT, or more preferably GLY or ABSENT

<220>  
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<222> (3)..(3)  
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

<220>  
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<222> (4)..(4)  
<223> Xaa = PRO, GLY, ASN, GLN or HIS, or more preferably PRO or ASN

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<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

<220>  
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<223> Xaa = LYS, ARG, GLY, PRO, ALA, ASN, GLN or HIS, or more preferably LYS, GLY or ASN

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<223> Xaa = GLN, ASN, HIS, LYS or ARG, or more preferably GLN or LYS

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<222> (14)..(14)  
<223> Xaa = ILE, VAL, ALA, LEU or GLY, or more preferably ILE or ALA

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<222> (16)..(16)  
<223> Xaa = GLY, PRO, ALA, LYS or ARG, or more preferably GLY or LYS

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<223> Xaa = VAL, LEU, ILE, GLY, PRO or ALA, or more preferably ALA or GLY

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<223> Xaa = ILE, VAL, MET, ALA, PHE or LEU, or more preferably LEU or PHE

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<223> Xaa = ARG, LYS, GLY, PRO or ALA, or more preferably ARG, GLY or LYS

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<223> Xaa = GLY, PRO, ALA, VAL, ILE, LEU, MET or PHE, or more preferably GLY or VAL

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<223> Xaa = ASN, GLN, HIS, GLY, PRO, ALA, SER or THR, or more preferably ASN, GLY or SER

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<223> Xaa = ILE, VAL, ALA, LEU or GLY, or more preferably ILE or ALA

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<222> (26)..(26)  
<223> Xaa = SER, THR, GLY, PRO or ALA, or more preferably SER or GLY

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<223> Xaa = ASP or GLU

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<223> Xaa = ILE, LEU, VAL, ALA, MET or PHE, or more preferably ILE or VAL

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<223> Xaa = ILE, LEU, VAL, ALA, TYR, TRP or PHE, or more preferably ILE or TYR

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<223> Xaa = GLN, ASN or HIS, or more preferably GLN or HIS

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<223> Xaa = PHE, LEU, VAL, ALA, ILE or MET, or more preferably PHE, VAL or ILE

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<222> (39)..(39)  
<223> Xaa = LYS, ARG, HIS, ASN or GLN, or more preferably LYS, HIS, GLN or ARG

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<223> Xaa = LYS, ARG, HIS, ASN, GLN or ABSENT, or more preferably LYS, HIS or ABSENT

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<400> 62

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1 5 10 15

Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ala Xaa Thr Ala His Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40